A New Species of *Begonia* Section *Platycentrum* (Begoniaceae) from Vietnam

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ABSTRACT. A new species of *Begonia* (Begoniaceae) from Vietnam, *Begonia brevipedunculata* Y. M. Shui, is described and illustrated. It belongs to section *Platycentrum* (J. F. Klotzsch) A. DC., which is distinguished by having two persistent styles and two locules in every ovary. Its chief diagnostic characters are the dense clavate glandular pubescence on the abaxial leaf surface and the scape much shorter than the petiole. The characters distinguishing the new species from *Begonia howii* Merrill & Chun and *B. psilophylla* Irmscher are noted. In addition, a key to six similar species at the border of China and Vietnam is presented.

Key words: *Begonia*, Begoniaceae, section *Platycentrum*, Vietnam.

A survey of the literature and herbarium specimens reveals that a number of *Begonia* species co-occur in southern China and northern Vietnam. For example, *Begonia porterii* H. Léveillé & Vaniot (Gagnepain, 1921), *B. longicarpa* K. Y. Guan & D. K. Tian (Guan & Tian, 2000), *B. ceratocarpa* S. H. Huang & Y. M. Shui (*Exp. Sino.-Viet. 763* (IBSC); *Exp. Sino.-Viet. 809* (PE, IBSC)), and *B. masoniana* Irmscher (*Exp. Sino.-Viet. 917* (PE)) were first known from China and later found in Vietnam. On the other hand, *B. balansana* Gagnepain, *B. baviensis* Gagnepain, and *B. bonii* Gagnepain were first described from Vietnam, but later found in China (Ku, 1999). Thus, the study of *Begonia* collections from both counties, from the border of China into Vietnam, is necessary to establish the taxonomy of the genus.

The author noted an unusual collection (*Exp. Sino.-Viet. 671*) filed under *Begonia howii* at PE herbarium and under *B. hekouensis* S. H. Huang at IBSC herbarium. Its inflorescence is 3–6 cm long, which is much shorter than the petiole. The indumentum is a dense glandular pubescence on the abaxial leaf surface, which is very different from *B. howii*. The character of the indumentum is known to be useful for specific delimitation in the genus *Begonia* (Shui et al., 1999). Based on the indumentum and other characters, the new species is described and illustrated herein.

Begonia brevipedunculata Y. M. Shui, sp. nov. TYPE: Vietnam. Tonkin: Laocai Prov., 28 km to SE of Laocai city, Mawei village, on rocks in limestone forest, stem pinkish, leaves supra green, below red, wing of fruits red, 250–420 m, 21 Dec. 1964, *Exp. Sino.-Viet. 671* (holotype, PE; isotype, IBSC). Figure 1.

Habitu *Begoniae howii* Merrill & Chun et *B. psilophyllae* affinis, ab illa pedunculis ex rhizomate (nec ex erectis caulibus) emittentibus ala majore capsularum valde decurrentibus (nec ascendentibus), a hoc pedunculis conspicue brevioribus quam petiolis (nec longioribus) ala majore capsularum late triangulatis 0.8–1.0 cm longis 1.2–1.3 cm altis (nec oblongis 1.4–1.5 cm longis ca. 0.9 cm altis), a quibus folio subtus dense glandulifero (nec glabro) differt.

Herb 17–29 cm tall, rhizomatous and acaulescent; rhizomes ca. 2.5 cm long, ca. 1.2 cm thick, densely covered with fibrous roots, interrupted by many very short internodes and elliptic leaf scars. Leaves 2 or 3, alternate, caespitose at the upper part of rhizomes; petioles 17–24 cm long, slightly covered with appressed furfuraceous hairs; stipules unknown; blades oriented straight relative to petiole, elliptic to ovate, 15–19 × 7–10 cm, slightly and laxly incised at the margin, widely cuneate to slightly peltate at the base, acuminate at the apex, adaxially glabrous, abaxially densely covered with clavate glandular pubescence; venation palmate to pinnate, asymmetric, with 3 or 4 pairs on smaller half, 4 or 5 pairs on larger half. Flowers unknown. Inflorescences known only from fruit (4 seen), 3–6 cm long, fruiting peduncle 2–4 cm long; pedicel 9–13 mm long. Capsules pendent, glabrous, 1.4–1.6 cm tall, 1.1–1.2 cm wide, 3-winged, with 2 persistent bifurcate stigmas, without a ventral suture between the larger wing and the smaller ones, with a ventral suture between the two smaller wings; the larger wing strongly descending, triangular, 0.8–1.0 cm long, 1.2–1.3 cm high, the 2 smaller wings arching, ca. 1.5 mm long, 1.3–1.4 cm high; locules 2 in every capsule examined (4); placentas axillary, 2

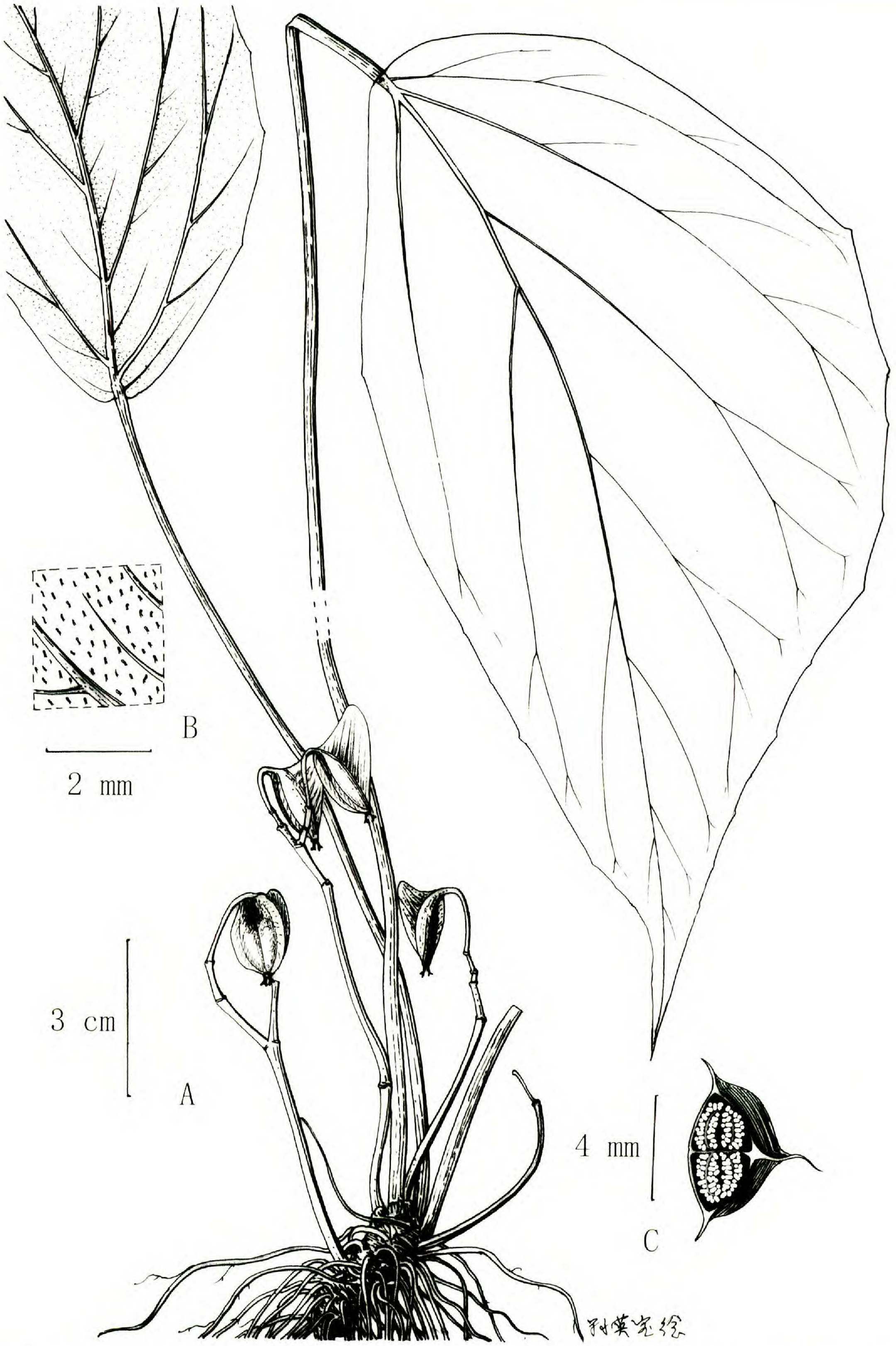

Figure 1. *Begonia brevipedunculata* Y. M. Shui, sp. nov. —A. Habit. —B. Glandular pubescence on lower leaf surface. —C. Cross section of a fruit. Drawn by Sun Ying-bao from the holotype (*Exp. Sino.-Viet. 671*, PE).

per locule, with ovules on both surfaces. Ovules numerous, elliptic in outline, foveolate.

Distribution. Vietnam (known only from the type locality).

Habitat. On rocks in limestone forest, noted from an altitude of 250–420 m.

Note. The new species is very similar to *Begonia howii*, differing in that its peduncles arise directly from the rhizomes (vs. arising from an erect stem in *B. howii*) and its fruits are pendent with larger wings strongly descending (vs. ascending ones in *B. howii*). It also resembles *Begonia psilophylla*, from which it differs in having peduncles much shorter than petioles and fruits with broadly triangular wings 0.8–1.0 cm long (vs. 1.4–1.5 cm long and a narrowly triangular shape in *B. psilophylla*). *Begonia brevipeduculata* is further distinguishable from both *B. howii* and *B. psilophylla* by having glandular pubescence on the abaxial leaf surface.

In *Begonia* sect. *Platycentrum*, the diagnostic characters are two persistent styles and lack of a ventral suture between the two locules of the capsule, suggesting two locules in a fruit (Doorenbos et al., 1998). On the basis of these characters, the new species certainly belongs to section *Platycentrum*. In *Begonia* sect. *Platycentrum*, female flowers typically have five tepals, whereas male flowers typically have four tepals. The character of the flowers seldom differs noticeably among species; however, the characters of leaf and fruit are important in distinguishing among species. Both its dense glandular pubescence on the abaxial leaf surface and its peduncle much shorter than petioles are unique characters in *Begonia* sect. *Platycentrum*. In addition, an isotype of the new species is found in IBSC besides the holotype. Therefore, even without flower materials, it is possible to differentiate *B. brevipedunculata* from other species in *Begonia* sect. *Platycentrum*.

Although the new species is based on a few unique specimens from the type locality, the high endemism on the limestone hill suggests that it may be a rare plant (Fang et al., 1995). To our knowledge, in southern China or northern Vietnam, there are five other species with cuneate or shallowly cordate leaf bases (Gagnepain, 1921; Shui et al., 2002; Smith et al., 1986), namely *B. longicarpa* (sect. *Leprosae* (T. C. Ku) Y. M. Shui), *B. oreodoxa* C. H. Hu, *B. hekouensis*, *B. psilophylla*, and *B. howii* (all of sect. *Platycentrum* (J. F. Klotzsch) A. DC.).

Key to the Six Species of *Begonia* sect. *Platycentrum* with Cuneate or Shallowly Cordate Leaf Base at the Border of China and Vietnam

1a. Leaves with trichomes on the adaxial surface.
  2a. Inflorescences emerging from the erect stem (China, Vietnam) . . . . . *B. hekouensis*
  2b. Inflorescences emerging from rhizomes, an erect stem lacking (China, Vietnam) . . . . . *B. oreodoxa*
1b. Leaves glabrous on the adaxial surface.
  3a. Fruit clavate, indehiscent (China, Vietnam) . . . . . *B. longicarpa*
  3b. Fruit turbinate, dehiscent.
    4a. Leaves glandular pubescent abaxially, peduncles arising directly from rhizomes (Vietnam only) . . . . . *B. brevipedunculata*
    4b. Leaves glabrous abaxially, peduncles from erect stems.
      5a. Leaves widely cuneate, oblique (Hainan, China, only) . . . . . *B. howii*
      5b. Leaves slightly cordate or rotundate, more or less symmetric (China, Vietnam) . . . . . *B. psilophylla*

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